PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Melvin M. TAKATA, et al.
Application No.	09/483,561
Filed:	January 14, 2000
For:	**FAST MATCHING SYSTEMS AND METHODS FOR PERSONAL IDENTIFICATION**
Group Art Unit:	2623
Examiner:	Ahmed, S.

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Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This is an Appeal Brief under 37 C.F.R. § 41.37 in connection with decision of the Examiner mailed on October 10, 2003. A Notice of Appeal was received by the Patent Office on April 12, 2004, setting the period for filing an Appeal Brief to expire on June 12, 2004. A four-month extension of time is being submitted herewith to extend the period for response up to an including October 12, 2004. Each of the topics required by § 41.37 is presented herewith and is labeled appropriately.

(1)   Real Party In Interest

The real party in interest is Citicorp Development Center, Inc. (formerly Transaction Technology, Inc.).

(2)   Related Appeals And Interferences

There are no other appeals or interferences related to this case.

(3)   Status Of Claims

Claims 1-12, 14, 15, and 27-41 are pending and all have been rejected.

Claims 13, 16-26, and 42-48 have been cancelled.

No claims have been allowed.

Claims 1-12, 14, 15, and 27-41 are hereby appealed.

(4)   Status of Amendments

There are no amendments after final rejection.

(5)   Summary of Claimed Subject Matter

Independent claim 1 proposes a method for identifying a presented individual that includes, for example, first determining a match between a presented image metric, representing at least one characteristic of a presented image of the presented individual, and a reference metric selected from a predetermined arrangement of a plurality of reference metrics, wherein each one of the plurality of reference metrics represents at least one reference characteristic of one of a plurality of known individuals, then identifying the presented individual as one of the plurality of known individuals if a match is found between the presented image metric and one of the plurality of reference metrics. In addition, claim 1 proposes concurrently determining a match between a plurality of presented image metrics and the plurality of reference metrics, where each of the plurality of presented image metrics represents at least one characteristic of a presented image of one of a plurality of presented individuals, and the predetermined arrangement comprises a circular presentation of the plurality of reference metrics. Claim 1 also proposes identifying each of the plurality of presented individuals as one of the plurality of known individuals if a match is found between one of the plurality of presented image metrics and one of the plurality of reference metrics. *See, e.g.,* Utility Spec. p. 3, lines 5-8 and 16-19; p. 4, lines 11-18; and p. 12, lines 18-29.

Independent claim 27 proposes a computer system for identifying a presented individual represented at least in part by presented image data including, for example, a memory having a plurality of reference metrics, where each of the plurality of reference metrics represents a reference image of at least a portion of one of a plurality of known individuals, and each of the plurality of reference metrics includes at least one classifiable reference characteristic of the reference image. Independent claim 27 also proposes a processor in communication with the memory and operable to receive the presented image data, the processor operable to run a program to convert the presented image data to a presented image metric having at least one classifiable characteristic of the presented individual, the program further operable to retrieve at least a predetermined arrangement of the plurality of reference metrics, where the program generates an identification signal to identify the presented individual as one of the plurality of known individuals if a match is found between the presented image metric and one of the predetermined arrangement of reference metrics. *See, e.g.,* Utility Spec. p. 14, lines 3-24.

(6)   Grounds of Rejection to be Reviewed on Appeal

1. Whether the examiner erred in rejecting claims 27-30, 32-24, 36 and 40-41 under 35 U.S.C. § 102(e) as being anticipated by Morimoto et al. (U.S. Patent No. 6,418,235).

2. Whether the Examiner erred in rejecting claims 31, 35, and 37 under 35 U.S.C. § 103(a) as being unpatentable over Morimoto et al. in view of Mann et al. (U.S. Patent No. 6,119,096).

3.: Whether the Examiner erred in rejecting claims 38 and 39 under 35 U.S.C. § 103(a) as being unpatentable over Morimoto et al. in view of Daugman (U.S. Patent No. 5,291,560).

4. Whether the Examiner erred in rejecting claims 1-8, 10-12, 14, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Schwab in view of Daugman.

5. Whether the Examiner erred in rejecting claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Schwab in view of Daugman, and further in view of Mann et al.

(7)   Argument

Ground 1: Whether the examiner erred in rejecting claims 27-30, 32-24, 36 and 40-41 under 35 U.S.C. § 102(e) as being anticipated by Morimoto et al.

Regarding independent claim 27, the Examiner considers that Morimoto et al. teaches each and every claimed element found therein. Further, the Examiner presents Morimoto et al. as a reference under 35 U.S.C. § 102(e), as a Patent Application Publication or Patent to Another with an earlier filing date, in view of the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002. The Examiner asserts the rejection of claims 27-41 is proper because the terms "classifiable reference characteristic" and "classifying the characteristics of the individual" are not disclosed in the provisional application.

The Examiner relies on the recent decision in New Railhead MFG v. Vermeer Mfg. Co., 298 F.3d 1290 (Fed. Cir. 2002) for the proposition that "the provisional must cover all the claim made in the final utility patent application", and states that the written description in the provisional is inadequate. Applicants do not contest the holding in that case, but do submit that the Examiner failed to recognize the claimed subject matter in the provisional application.

Morimoto et al. was filed in the U.S. Patent Office on September 7, 1999. The subject matter of claim 27 was originally disclosed in provisional patent application

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60/116,115 filed on January 15, 1999, of which the currently appealed application claim benefit. Thus, Morimoto et al. is not a proper reference under 35 U.S.C. § 102(e). While the Examiner is correct in that the exact phrases "classifiable reference characteristic" and "classifying the characteristics of the individual" are not found in the provisional application, the concepts are taught by the provisional application in sufficient detail to inform one of ordinary skill in the art as to the nature of the invention.

It is well settled that the language of the claim need not appear in haec verba in the prior application. Lampi Corp. v. American Power Products, Inc., 228 F.3d 1365, 1378 (Fed. Cir. 2000). In All Dental Prodx, LLC v. Advantage Dental Prods., Inc., 309 F.3d 774 (Fed. Cir. 2002) the claimed invention related to a method for making a custom dental impression tray, and recited in part "heating an original unidentified mass ..." The Federal Circuit acknowledged that the phrase "original unidentified mass" nowhere appeared in the parent application to which the patent in suit claimed priority. However, in finding that the parent nonetheless supported the claimed invention, the court stated that "the failure of the specification to *specifically* mention a limitation that later appears in the claim is not a fatal one when one skilled in the art would have recognized upon reading the specification that the new language reflects what the specification shows has been invented." *See*, Id at 779. (emphasis added) Applicants respectfully assert this is the case with the presently appealed claims.

The phrase "classifiable reference characteristic" is described and sufficiently supported such that one of skill in the art would have recognized that the concept is enabled by the provisional application. Specifically, one method for searching images is described as follows:

> The ordered search utilizes a selected set of stored image metrics comprising a subset of the entire database of stored metrics. The subset to be searched is determined by sorting the entire database of stored image metrics based on portions of the data format that represent a selection of distinctive characteristics that are either a part of the stored

image metric or that are associated with the stored image metric.
(Prov. App. p. 6, lines 11-16)

and,

> For example, a subset may comprise stored image metrics of
> individuals with brown eyes, light brown skin and dark brown hair,
> possibly along with some other distinctive iris characteristic. (Prov.
> App. p. 7 lines 8-10)

The "classifiable reference characteristic" is a distinctive characteristic of an image
which is used to group and compare reference images to the presented image metric.
(*See, e.g.,* Utility Spec. p. 13, line 18 – p. 14, line 2) This concept is clearly taught by
the disclosure of the provisional application.

Further, the Examiner asserts that "classifying the presented image metric
based on the at least one characteristic of the presented iris" is not disclosed in the
provisional application. Applicants respectfully disagree noting that the provisional
application provides:

> The individual characteristics may comprise features like the hair color,
> skin tone, and distinctive facial characteristics of an individual, for
> example. These characteristics may be captured by the camera and
> form the *primary portion of the presented image metric* and the stored
> image metrics. For example, one primary individual characteristic
> *preferably comprises the iris* of an individual. (Prov. App. p. 6, lines
> 21-25) (emphasis added)

Thus, the presented image metric is classified by forming a "primary portion" which
"preferably comprises the iris". The claim language is supported by the disclosure
found in the provisional. One skilled in the art would recognize and be able to make
or use the invention according to claim 27 after reading the provisional application.

Another example of "classifying the presented image metric based on the at
least one characteristic of the presented iris" is found in another section of the
provisional application:

The presented image metric represented the contours and pigmentation of the iris, as well as other general individual characteristics, and can be quickly compared to other stored image metrics to make an identification determination. A plurality of individual image characteristics may be combined into the present image metric to aid in the fast matching ability of the system. Also, individual characteristics that most humans use to identify other humans may be utilized to quickly determine a subset of stored images to search." (Prov. App. p. 7, lines 1-8)

Thus the provisional application does contain sufficient disclosure of the subject matter found in claim 27 so as to satisfy all the requirements of the first paragraph of § 112, and therefore claim 27 properly claims the benefit of the filing date thereof. Consequently, Morimoto et al. is not a valid reference under 35 U.S.C. § 102(e).

Because the Morimoto et al. reference is not a proper reference under 35 U.S.C. § 102(e), the Examiner has failed to cite a reference in which each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference, and therefore the Examiner has failed to establish the required *prima facie* case of unpatentability. *See,* Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628 (Fed. Cir. 1987); *See also,* MPEP §2131.

The Examiner has failed to establish the required *prima facie* case of unpatentability for independent claim 27 and similarly has failed to establish a *prima facie* case of unpatentability for claims 28-30, 32-34, 36, and 40-41 that depend on claim 27 which recite further specific elements that have no reasonable correspondence with the reference.

Ground 2: Whether the Examiner erred in rejecting claims 31, 35, and 37 under 35 U.S.C. § 103(a) as being unpatentable over Morimoto et al. in view of Mann et al.

As noted above, Morimoto et al. is not a proper reference under 35 U.S.C. § 102(e), and therefore, the Examiner has failed to establish the required *prima facie* case of unpatentability of independent claim 27, and similarly has failed to establish a *prima facie* case of unpatentability for claim 31, 35, and 37 that depend on claim 27,

and which recite further specific elements that have no reasonable correspondence to the references.

Ground 3: Whether the Examiner erred in rejecting claims 38 and 39 under 35 U.S.C. § 103(a) as being unpatentable over Morimoto et al. in view of Daugman.

As noted above, Morimoto et al. is not a proper reference under 35 U.S.C. § 102(e), and therefore, the Examiner has failed to establish the required *prima facie* case of unpatentability of independent claim 27, and similarly has failed to establish a *prima facie* case of unpatentability for claim 38 and 39 that depend on claim 27, and which recite further specific elements that have no reasonable correspondence to the references.

Ground 4: Whether the Examiner erred in rejecting claims 1-8, 10-12, 14, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Schwab in view of Daugman.

Regarding independent claim 1, the Examiner considers that Schwab teaches each and every claimed limitation, except: (a) further comprising concurrently determining a match between a plurality of presented image metrics and the plurality of reference metrics, where each of the plurality of presented image metrics represents at least one characteristic of a presented image of one of a plurality of presented individuals, and the predetermined arrangement comprises a circular presentation of the plurality of reference metrics, and identifying each of the plurality of presented individuals as one of the plurality of known individuals if a match is found between one of the plurality of presented image metrics and one of the plurality of reference metrics, which the examiner considers to be taught by Daugman.

The Examiner indicates that it would have been obvious to use Daugman's teachings to modify Schwab's system in order to increase system search and response speed (*See*, paper 9, page 14). However, Schwab describes generally a secure identification system for securely storing and retrieving files describing and identifying unique products, services or individuals. *See,* Schwab Abstract. *Selected*

images are downloaded (retrieved) for matching purposes based on an identification event (with some form of identification in order to retrieve the selected image). Daugman discloses an iris recognition system which searches across a **large database** of stored reference codes to determine the identity of an individual. *See,* Daugman, col. 3, lines 16-20. Thus, given the selected image searching of Schwab, there is no need to download all the image files for matching, as described by Daugman, because certain images are already selected for retrieval to best perform the matching. In other words, the combination of Schwab and Daugman would teach away from the original intents of Schwab and can, in fact, decrease the system search and response speed due to the large number of images that would be used to perform matching. Thus, it would not be obvious to one of skill in the art to combine the teachings of Schwab with Daugman, nor can there be inferred a suggestion therein to combine them.

Because the cited references, either alone or in combination, do not teach the limitations of independent claim 1 the Examiner has failed to establish the required *prima facie* case of unpatentability. *See,* In re Royka, 490 F.2d 981, 985 (C.C.P.A., 1974) (holding that a *prima facie* case of obviousness requires the references to teach all of the limitations of the rejected claim); *See also,* MPEP §2143.03. Similarly, the Examiner has failed to establish a *prima facie* case of unpatentability for claims 2-12, and 14-15 that depend on claim 1, and which recite further specific elements that have no reasonable correspondence to the references.

Ground 5: Whether the Examiner erred in rejecting claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Schwab in view of Daugman, and further in view of Mann et al.

As noted above, because Schwab and Daugman, either alone or in combination, do not teach the limitations of independent claim 1, the Examiner has failed to establish the required *prima facie* case of unpatentability of independent claim 1, and similarly has failed to establish a *prima facie* case of unpatentability for
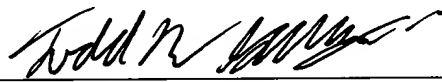
claim 9 that depends on claim 1, and which recites further specific elements that have not reasonable correspondence to the references.

(9)   Conclusion

For at least the reasons given above, the rejections of claims 1-12, 14, 15, and 27-41 are improper. Applicant respectfully requests the final rejection by the Examiner be reversed and claims 1-12, 14, 15, and 27-41 be allowed. Attached below is an Appendix of claims 1-12, 14, 15, and 27-41 for ease of reference.

Respectfully submitted,

Date: 10/12/04   By: _____

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CLAIMS APPENDIX

1. A method for identifying a presented individual, comprising:

determining a match between a presented image metric, representing at least one characteristic of a presented image of the presented individual, and a reference metric selected from a predetermined arrangement of a plurality of reference metrics, wherein each one of the plurality of reference metrics represents at least one reference characteristic of one of a plurality of known individuals;

identifying the presented individual as one of the plurality of known individuals if a match is found between the presented image metric and one of the plurality of reference metrics; and

concurrently determining a match between a plurality of presented image metrics and the plurality of reference metrics, wherein each of the plurality of presented image metrics represents at least one characteristic of a presented image of one of a plurality of presented individuals, and wherein the predetermined arrangement comprises a circular presentation of the plurality of reference metrics, and identifying each of the plurality of presented individuals as one of the plurality of known individuals if a match is found between one of the plurality of presented image metrics and one of the plurality of reference metrics.

2. The method of claim 1, further comprising arranging the predetermined arrangement based on the at least one characteristic of the presented image metric.

3. The method of claim 2, wherein the at least one characteristic of the presented image metric comprises a physical characteristic of the presented individual.

4. The method of claim 3, wherein the physical characteristic is selected from the group consisting of hair color, skin tone, and facial characteristic of the presented individual

5. The method of claim 3, wherein the at least one characteristic of the presented image metric comprises a characteristic of a presented iris of the presented individual.

6. The method of claim 1, further comprising arranging the predetermined arrangement based on a user-defined characteristic of each of the plurality of reference metrics.

7. The method of claim 6, wherein the user-defined characteristic comprises a non-image-related characteristic of each of the plurality of known individuals.

8. The method of claim 7, wherein the non-image related characteristic is selected from a group consisting of geography, memberships, affiliations and individual habits.

9. The method of claim 1, further comprising arranging the predetermined arrangement as a selected subset of the plurality of reference metrics based on an ordered search of the database.

10. The method of claim 1, wherein the predetermined arrangement is based on a combination of the at least one characteristic of the presented image metric and a non-image-related characteristic of each of the plurality of known individuals.

11. The method of claim 1, further comprising arranging the predetermined arrangement based on a combination of a characteristic of a presented iris of the presented individual, another one of a physical characteristic of the presented individual and a non-image-related characteristic of each of the plurality of known individuals.

12. The method of claim 1, further comprising arranging the predetermined arrangement by binning the plurality of reference metrics based on the at least one reference characteristic of the plurality of known individuals such that reference metrics having similar reference characteristics are arranged in the same bin.

14. The method of claim 1, wherein the presented image metric and each of the plurality of reference metrics are in a digital format that provides a substantially repeatable representation of the at least one characteristic of a presented image of the presented individual and the at least one reference characteristic of one of a plurality of known individuals, respectively.

15. The method of claim 1, wherein determining the match comprises identifying and comparing the at least one characteristic of the presented image metric with a corresponding characteristic of at least one of the predetermined arrangement of the plurality of reference metrics.

27. A computer system for identifying a presented individual represented at least in part by presented image data, comprising:

a memory having a plurality of reference metrics, wherein each of the plurality of reference metrics represents a reference image of at least a portion of one of a plurality of known individuals, and wherein each of the plurality of reference metrics includes at least one classifiable reference characteristic of the reference image;

a processor in communication with the memory and operable to receive the presented image data, the processor operable to run a program to convert the presented image data to a presented image metric having at least one classifiable characteristic of the presented individual, the program further operable to retrieve at least a predetermined arrangement of the plurality of reference metrics, wherein the program generates an identification signal to identify the presented individual as one of the plurality of known individuals if a match is found between the presented image metric and one of the predetermined arrangement of reference metrics.

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28. The system of claim 27, wherein the predetermined arrangement is based on the at least one classifiable characteristic of the presented image metric.

29. The system of claim 28, wherein the at least one classifiable characteristic of the presented image metric comprises a physical characteristic of the presented individual.

30. The system of claim 29, wherein the physical characteristic is selected from a group consisting of a facial characteristic, hair color, skin tone and an iris characteristic.

31. The system of claim 28, wherein the at least one classifiable characteristic of the presented image metric comprises a characteristic of a presented iris of the presented individual.

32. The system of claim 27, wherein the predetermined arrangement is based on a user-defined characteristic of each of the plurality of reference metrics.

33. The system of claim 32, wherein the user-defined characteristic comprises a non-image-related characteristic of each of the plurality of known individuals.

34. The system of claim 33, wherein the non-image-related characteristic is selected from the group consisting of a geographical characteristic, an affiliation characteristic and an individual habit characteristic.

35. The system of claim 27, wherein the predetermined arrangement is a selected subset of the plurality of reference metrics based on an ordered search of the plurality of reference metrics.

36. The system of claim 27, wherein the at least one classifiable characteristic of the reference image includes a non-image-related characteristic of each of the plurality of known individuals, and wherein the predetermined arrangement is based on a combination of the at least one classifiable characteristic of the presented image metric and the non-image-related characteristic of each of the plurality of known individuals.

37. The system of claim 27, wherein the predetermined arrangement is based on a combination of a characteristic of a presented iris of the presented individual, another one of a physical characteristic of the presented individual and a non-image-related characteristic of each of the plurality of known individuals.

38. The system of claim 27, wherein the predetermined arrangement comprises binning the plurality of reference metrics based on the at least one classifiable reference characteristic of the plurality of known individuals such that reference metrics having similar reference characteristics are arranged in the same bin.

39. The system of claim 27, further comprising a carousel program within the processor, wherein the carousel program is operable for concurrently determining a match between a plurality of received presented image metrics and the plurality of reference metrics, wherein each of the plurality of presented image metrics represents at least one characteristic of a presented image of one of a plurality of presented individuals, and wherein the predetermined arrangement comprises a circular presentation of the plurality of reference metrics, and wherein the carousel program generate an identification signal to identify each of the plurality of presented individuals as one of the plurality of known individuals if a match is found between one of the plurality of presented image metrics and one of the plurality of reference metrics.

40. The system of claim 27, further comprising a camera operable for capturing the presented image of the presented individual and outputting the presented image data representing the presented image.

41. The system of claim 27, further comprising a secure system having restricted access, wherein the identification signal is receivable by the secure system for determining access.

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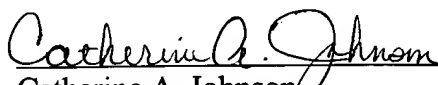|		
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Catherine A. Johnson